AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

On page 1, lines 1-2, please amend the title of the invention as follows:

METHOD AND APPARATUS FOR RECORDING OPTICAL INFORMATION INCLUDING DUMMY DATA, AND OPTICAL DISK HAVING SUCH DATA RECORDED THEREON

Please replace the paragraph beginning page 1, line 6, with the following rewritten paragraph:

This invention relates to a data recording method used in an apparatus for recording information onto an optical disk by emitting a laser beam to the optical disk.

Please replace the paragraph beginning page 1, line 11, with the following rewritten paragraph:

Recently, ~~an~~ optical ~~disk~~ disks ~~is~~ have become highly desired to be used for visual application, and thus it is desired ~~to~~ that optical disks be ~~a~~ capable of mass storage and ~~to~~ be able to be accessed at a high speed. For this purpose, ~~it~~ there needs to develop an art capable of recording more microscopic information. Further, it is important to reduce an overhead region which is a portion that does not directly contribute to the capacity such as an address region.

Please replace the paragraph beginning page 1, line 19, with the following rewritten paragraph:

Fig. 10 is a view illustrating a physical sector structure on a track of ~~the~~ a conventional optical disk. As shown in Fig. 10, the optical disk has a sector 901 which includes an address region 902 indicating address information and a data region 903 to/from which information can be recorded/reproduced. The data region 903 is located in both a groove track 904 and a land track 905 between the groove tracks. The address region 902 includes a header region 906 and a mirror region 907. The header region 906 is used to record concavo-convex pits which are produced when the optical disk is manufactured, and can not be re-written.

Please replace the paragraph beginning page 2, line 6, with the following rewritten paragraph:

Fig. 11 shows a sector format. As described above, the sector includes the address region 902 and the data region 903. The address region 902 includes a header region 906 of 128 bytes and a mirror region 907 of 2 bytes. The data region 903 includes 2418 bytes of user data region 1007 used to record user data, ~~and~~ 68 bytes of clock extraction region 1006, and 81 bytes of buffer region 1008. The clock extraction region 1006 is used for a PLL (Phase Locked Loop: to generate a clock with frequency and phase locked to an input signal) to input the signal for extracting the clock at data reproduction, and is used to absorb a deterioration of a front portion caused by iterative data recording. The buffer region 1008 is used to absorb a position shift at data recording or a deterioration of an end portion caused by repeated data recording.

Please replace the paragraph beginning page 2, line 21, with the following rewritten paragraph:

To record 2418 bytes of data in the user data region of one sector, the above described optical disk needs 128 bytes of header region, 2 bytes of the mirror region, 68 bytes of clock extraction region, and 81 bytes of buffer region. Accordingly, 2697 bytes length in total is needed for a sector. The data portion includes a portion for error correction, and therefore a sector needs 2697 bytes length to store 2048 bytes of data. At that time, a utilization ratio of the disk (format efficiency) for recording a signal on the disk is 75.9% (=2048/2697). This means that the format includes 24.1% of redundancy.

Please replace the paragraph beginning page 9, line 14, with the following rewritten paragraph:

The description is made to a data recording method of an optical disk in a preferred embodiments of the invention below.

Please replace the paragraph beginning page 11, line 8, with the following rewritten paragraph:

In this embodiment, four sectors compose one block, and one block address is detected by reproducing address regions of four sectors. This configuration can reduce an address region of each sector compared to the prior art (see Fig. 7), thus to increase data storage capacity. In the data region, information is recorded as pits after modulated according to a predetermined

modulation method. The pits can be formed, for example, by changing optics of a material of a recording layer in accordance with ~~a~~ an emitted power of the laser beam varied strongly and weakly.

Please replace the paragraph beginning page 11, line 25, with the following rewritten paragraph:

It is noted that it needs to recognize a leading sector in order to detect one block address by reproducing address regions of a plurality of sectors. For this purpose, as shown in Fig. 4, mirror regions ~~315~~ 314, 315 and 316 may be provided to each block. The length of the mirror region ~~315~~ 314, 315 or 316 shown in Fig. 4 is equal to or more than twice the length of the mirror region 109 shown in Fig. 1. By providing ~~Providing~~ the long mirror region to each block as described above, in conversion of a pit train of the concavo-convex pits 110 in the address region into patterns (for example, a pit train of "concave", "convexity" and "concave" is converted into "1", a pit train of "convexity", "concave" and "convexity" is converted into "0", and a pit train of "convexity", "convexity" and "concave" is converted as "a head of block"), it becomes needless to provide a pattern to indicate a head of a sector. This allows the number of patterns to be reduced, and a reading rate indicating a probability of correctly reading patterns other than that pattern to be improved.

Please replace the paragraph beginning page 12, line 22, with the following rewritten paragraph:

Fig. 5 is a block diagram of a recording apparatus (it ~~It~~ is referred to as "an optical disk drive" below[[.]]) of optical information according to the invention. The optical disk drive 500 is an apparatus for recording information onto the optical disk 501, and includes a spindle motor 502, an optical head 503, ~~an~~ a laser beam control circuit 504, a servo circuit 505, a reproduction signal digitizing circuit 506, a digital signal processing circuit 507, a recording compensation circuit 508, and CPU 509. The optical disk drive 500 is connected to a host PC 510.

Please replace the paragraph beginning page 17, line 9, with the following rewritten paragraph:

Alternatively, as shown in Fig. 6, in case that an area used to record data of the optical disk is divided into a plurality of zones (for example, for ZCLV control), the track 301 is the most inside track of each zone 602, 603 or 604, or a track located in vicinity of the most inside track. No data is recorded inside of the track 301 in each zone. In the optical disk 501 shown in Fig. 6, data area is divided into three zones. A rotational speed of the spindle motor 502 in each zone is different from each other so that the substantially same linear velocity can be obtained in all zones.

Please replace the paragraph beginning page 17, line 22, with the following rewritten paragraph:

Fig. 7 shows a sector configuration of the optical disk according to the invention. The sector 801 includes an address region 802 and ~~an~~ a data region 803. The address region 802 has

24 bytes of header region 804 and 12 bytes of mirror region 805. A length of the address region 802 is determined to be smaller than that of the sector in the prior art shown in Fig. 11. In this embodiment, one block address is detected by reproducing four sector address regions, and the dummy pattern for extracting the clock is recorded on the final sector of the block adjacent before the block to record data, and therefore it is possible to extract the clock with a small length of the address region.

Please replace the paragraph beginning page 28, line 2, with the following rewritten paragraph:

Similarly, in this embodiment the dummy data is recorded on the whole data region in the sector adjacent before the sector from which data reproduction is started. However, the dummy data may be recorded on a portion of the sector including a end portion, for example, a latter half portion, if a stable operation of extracting the clock in PLL can be achieved to the following sectors to be reproduced.